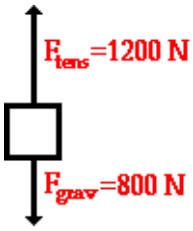
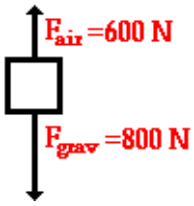
Name: _____ Per: _____

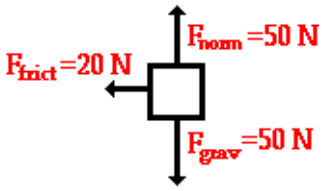
Forces & Motion Notes

Force:

Net Force:





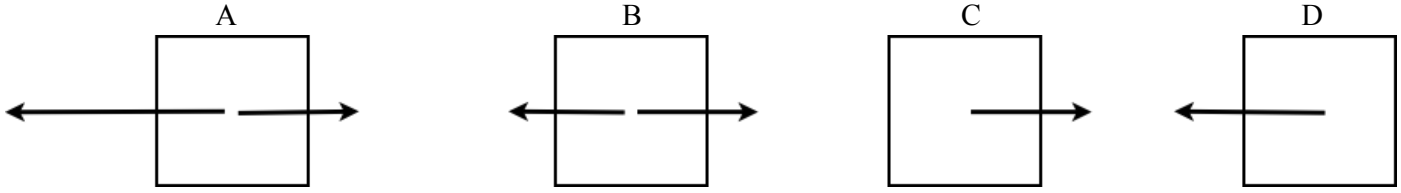


Inertia:

Newton's 1st Law:

Concept Check:

1. Which diagram above shows a force diagram for a car traveling at a constant velocity to the right.

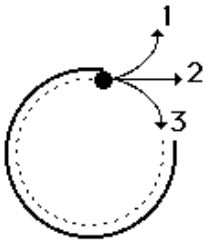


2. What device was added to cars to help protect passengers for when a car takes off at a green light?
   a. Head Rest
   b. Air Bag
   c. Seat Belt
   d. Steering Wheel

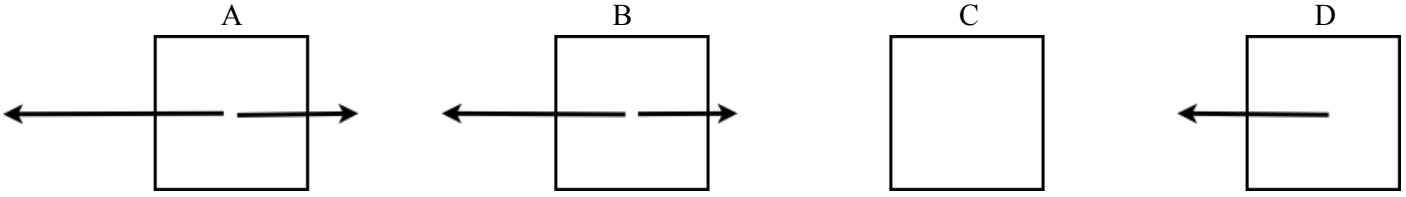
Name: _____ Per: _____

Forces & Motion Notes

3. In which direction will a ball travel after moving around a circular path



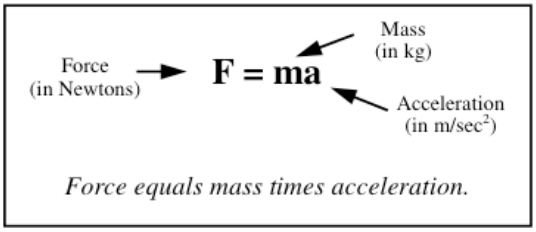
4. If a spaceship fired a cannonball into frictionless space, what diagram above shows the forces needed for the ball to remain in constant motion? (The ball is moving to the left)



5. You observe a parked car with a helium balloon floating inside. When the car backs out of the parking space what is the resulting motion of the balloon?
   a. Moves back with the car
   b. Does not move
   c. Moves forward
   d. Floats upward

Newton's Second Law

Newton's 2nd Law:



1. If a 50 N force pulls on a 10 kg object, what will the acceleration of the object be?

2. A 49 N force pulls on an object and creates an acceleration of 7 m/s^2. What is the object's mass?

Name: _____ Per: _____

Forces & Motion Notes

3. A boat moves through the water with two forces acting on it. One is a 2,100 N forward push by the motor, and the other is a 1,800 N resistive force due to the water.
   a. What is the net force acting on the boat?

   b. What is the acceleration of the 1200 kg boat?

Newton's third law:

Examples of action-reaction pairs / action-reaction forces:

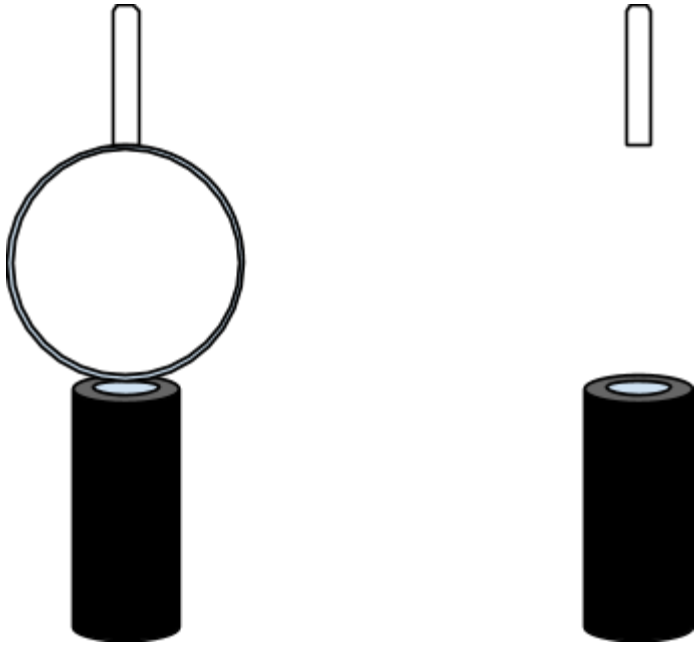
Name: _____ Per: _____

Forces & Motion Notes

With the hoop sitting on the solenoid, and marker sitting on the hoop, remove the hoop in a way that the marker falls straight down into the solenoid.

Draw what you think are the forces acting on the marker as it sits on top of the hoop.

Draw what you think are the forces acting on the maker immediately after the hoop is removed.



Name: _____ Per: _____

Forces & Motion Notes

With the kick disc turned off, slide disc towards another person standing roughly 20 feet away.

Draw what you think are the forces acting on the disc as it slides.

Turn on the disc and repeat the process.

Draw what you think are the forces acting on the disc.

Sliding with motor turned off

Sliding with motor turned on